

Math 8 Chapter 3 Part 1 Review Pack v1 Answer Section

MULTIPLE CHOICE

1. ANS: B PTS: 1 DIF: Easy
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
2. ANS: A PTS: 1 DIF: Easy
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
3. ANS: C PTS: 1 DIF: Moderate
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
4. ANS: C PTS: 1 DIF: Moderate
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
5. ANS: C PTS: 1 DIF: Moderate
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
6. ANS: C PTS: 1 DIF: Easy
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding
7. ANS: D PTS: 1 DIF: Easy
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding
8. ANS: A PTS: 1 DIF: Moderate
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding
9. ANS: B PTS: 1 DIF: Moderate
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding
10. ANS: A PTS: 1 DIF: Moderate
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding | Communication
11. ANS: A PTS: 1 DIF: Moderate
REF: 3.2 Using Models to Multiply Fractions LOC: 8.N6
TOP: Number KEY: Conceptual Understanding
12. ANS: B PTS: 1 DIF: Easy REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
13. ANS: A PTS: 1 DIF: Easy REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
14. ANS: C PTS: 1 DIF: Easy REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding
15. ANS: A PTS: 1 DIF: Moderate REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding

16.	ANS: C LOC: 8.N6	PTS: 1 TOP: Number	DIF: Difficult KEY: Conceptual Understanding Problem-solving Skills	REF: 3.3 Multiplying Fractions
17.	ANS: B LOC: 8.N6	PTS: 1 TOP: Number	DIF: Easy KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
18.	ANS: A LOC: 8.N6	PTS: 1 TOP: Number	DIF: Easy KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
19.	ANS: C LOC: 8.N6	PTS: 1 TOP: Number	DIF: Easy KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
20.	ANS: D LOC: 8.N6	PTS: 1 TOP: Number	DIF: Moderate KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
21.	ANS: B LOC: 8.N6	PTS: 1 TOP: Number	DIF: Moderate KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
22.	ANS: C LOC: 8.N6	PTS: 1 TOP: Number	DIF: Moderate KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
23.	ANS: C LOC: 8.N6	PTS: 1 TOP: Number	DIF: Moderate KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers
24.	ANS: C LOC: 8.N6	PTS: 1 TOP: Number	DIF: Moderate KEY: Conceptual Understanding	REF: 3.4 Multiplying Mixed Numbers

SHORT ANSWER

25. ANS:

$$\frac{5}{6} \times 13 = \frac{65}{6}, \text{ or } 10\frac{5}{6}$$

It will take $10\frac{5}{6}$ h to make 13 widgets.

PTS: 1 DIF: Moderate
REF: 3.1 Using Models to Multiply Fractions and Whole Numbers
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding

26. ANS:

One-third

PTS: 1 DIF: Difficult REF: 3.2 Using Models to Multiply Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding | Problem-solving Skills

27. ANS:

1

PTS: 1 DIF: Moderate REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding

28. ANS:

7

PTS: 1 DIF: Moderate REF: 3.3 Multiplying Fractions
LOC: 8.N6 TOP: Number KEY: Conceptual Understanding | Problem-solving Skills

29. ANS:

$$\frac{5}{6}$$

PTS: 1

DIF: Moderate

REF: 3.3 Multiplying Fractions

LOC: 8.N6

TOP: Number

KEY: Conceptual Understanding | Procedural Knowledge

30. ANS:

$$2\frac{1}{8}, \frac{17}{8}$$

PTS: 1

DIF: Easy

REF: 3.4 Multiplying Mixed Numbers

LOC: 8.N6

TOP: Number

KEY: Communication

31. ANS:

$$2\frac{1}{2} \times 8\frac{1}{2} \text{ h} = \frac{5}{2} \times \frac{17}{2} \text{ h} = \frac{85}{4} \text{ h} = 21\frac{1}{4} \text{ h}$$

PTS: 1

DIF: Difficult

REF: 3.4 Multiplying Mixed Numbers

LOC: 8.N6

TOP: Number

KEY: Conceptual Understanding | Problem-solving Skills

PROBLEM

32. ANS:

$$\begin{aligned} \text{a) i) } \frac{4}{5} \times 15 + \frac{4}{5} \times 25 &= 12 + 20 \\ &= 32 \end{aligned}$$

$$\begin{aligned} \text{ii) } \frac{4}{5} \times (15 + 25) &= \frac{4}{5} \times 40 \\ &= 32 \end{aligned}$$

The 2 answers are the same.

$$\begin{aligned} \text{b) } \frac{6}{7} \times 25 + \frac{6}{7} \times 10 &= \frac{6}{7} (25 + 10) \\ &= \frac{6}{7} \times 35 \\ &= 30 \end{aligned}$$

PTS: 1

DIF: Difficult

REF: 3.1 Using Models to Multiply Fractions and Whole Numbers

LOC: 8.N6

TOP: Number

KEY: Procedural Knowledge | Communication

33. ANS:

$$\frac{1}{2} \times \frac{2}{3} = \frac{1}{3}$$

$$\frac{2}{3} \times \frac{3}{4} = \frac{2}{4}$$

$$\frac{3}{4} \times \frac{4}{5} = \frac{3}{5}$$

$$\vdots$$

$$\frac{17}{18} \times \frac{18}{19} = \frac{17}{19}$$

PTS: 1

DIF: Difficult

REF: 3.2 Using Models to Multiply Fractions

LOC: 8.N6

TOP: Number

KEY: Communication | Problem-solving Skills

34. ANS:

After buying books, Andrea has $\frac{1}{5}$ of her money left.

$$\frac{1}{3} \times \frac{1}{5} = \frac{1}{15}$$

So, Andrea spends $\frac{1}{15}$ of her original money on food.

PTS: 1

DIF: Difficult

REF: 3.2 Using Models to Multiply Fractions

LOC: 8.N6

TOP: Number

KEY: Problem-solving Skills

35. ANS:

$$\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \cdots \frac{24}{25} = \frac{1}{25}$$

Explanations may vary. Sample:

$$\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \cdots \frac{24}{25} = \frac{1 \times 2 \times 3 \times 4 \times \dots \times 24}{2 \times 3 \times 4 \times 5 \times \dots \times 25}$$

Divide the numerator and denominator by $2 \times 3 \times 4 \times \dots \times 24$ will give the result $\frac{1}{25}$.

PTS: 1

DIF: Difficult

REF: 3.3 Multiplying Fractions

LOC: 8.N6

TOP: Number

KEY: Communication | Problem-solving Skills

36. ANS:

$$\frac{3}{5} \text{ of } 60 = \frac{3}{5} \times 60 = 36$$

Jake gave 36 marbles to Mary.

The number of marbles left was: $60 - 36 = 24$

$$\frac{1}{4} \text{ of } 24 = \frac{1}{4} \times 24 = 6$$

Jake gave 6 marbles to Alexa.

The number of marbles left was: $24 - 6 = 18$

This is $\frac{18}{60}$, or $\frac{3}{10}$ of his original marbles.

PTS: 1

DIF: Difficult

REF: 3.3 Multiplying Fractions

LOC: 8.N6

TOP: Number

KEY: Communication | Problem-solving Skills

37. ANS:

$$\left(1\frac{5}{6} + 2\frac{1}{3}\right) \times 1\frac{3}{5} = \frac{25}{6} \times \frac{8}{5} = \frac{20}{3} = 6\frac{2}{3}$$

PTS: 1

DIF: Difficult

REF: 3.4 Multiplying Mixed Numbers

LOC: 8.N6

TOP: Number

KEY: Procedural Knowledge